

Special Prepublication Offer to ASA Members



Edgar F. Borgatta, George W. Bohrnstedt
Editors

Official Publications of the
AMERICAN SOCIOLOGICAL
ASSOCIATION

METHODOLOGY 1970

The question of what to do and how to do it in sociological investigation and analysis is as open to innovation and change today as it ever was. In a field that studies a subject about which it can never be said, "This is final," styles and trends develop as rapidly as new information is discovered. *Sociological Methodology 1970* is the second annual yearbook in a series sponsored by the American Sociological Association to advance the development of methodology in sociology and to keep the social scientist abreast of the methodological changes in his field. Borgatta and Bohrnstedt have put together a collection of original essays that touch upon the most current topics in the field and give a representative sampling of the thinking of its leading spokesmen.

OF SPECIAL INTEREST

No one methodological area dominates the 1970 yearbook, but several aspects of the book deserve special mention. Chapters by *Heise, Pelz, Lew, and Duncan* continue the 1969 volume's concern with models for causal analysis, which has become an important tool in the development of methodology itself, as well as in data analysis per se. The chapters on measurement, reliability, and validity are also of special interest, for, although nontechnical presentations of the measurement problem have occurred in sociology, relatively explicit technical papers have for the most part been absent from the literature.

COVERAGE

Prologue, Edgar F. Borgatta, George W. Bohrnstedt

PART ONE: THEORY BUILDING AND CAUSAL MODELS

Heise presents a model for making causal inferences from longitudinal data. The adequacy of the model is demonstrated by *Pelz* and *Lew*. These chapters will be important to those interested in panel data, since they point out the assumptions required for valid causal assertions, and, importantly the effects of violating these assumptions.

Duncan opposes the implicit assumption in recent sociological discussion that the objective of a piece of research is best served by a partitioning of the "explained variance" or by the calculation of a partial correlation. He argues, to the contrary, that achieving an algebraically consistent partitioning or system of partialing is secondary in importance to setting up an appropriate representation (or model) of the structure of the problem. *Bailey* reviews recent sociological literature addressed to building theories and then develops a set of criteria for evaluating axiomatic theory which differ from some of those stated by others.

1. *Causal Inference from Panel Data* David R. Heise
2. *Heise's Causal Model Applied* Donald C. Pelz, Robert A. Lew

3. *Partials, Partitions, and Paths* Otis Dudley Duncan
4. *Evaluating Axiomatic Theories* Kenneth D. Bailey

PART TWO: MEASUREMENT, RELIABILITY, AND VALIDITY

Blalock, Wells, and Carter show that inferences in regression analysis are biased in the presence of error. They then indicate how, using a single indicator, one can develop several differing estimating procedures. *Heise and Bohrnstedt* address themselves differently to the problem of measurement in that they assume one has multiple indicators of an unmeasured variable. Then, using factor and path analysis, they show how the validity, invalidity, and reliability of a composite measure based on the various indicators can be ascertained.

While measurement error can affect estimates of parameters, *Cleary*, *Linn*, and *Walster* show very convincingly that the power of statistical tests also is affected by the reliability and validity of one's measure. In addition to knowing about reliability of measures, one also needs to be concerned about the reliability of coders or rates in social science research. A number of seemingly dissimilar coefficients have been derived over the years for assessing inter-rater reliability. *Krippendorff* demonstrates that they can be derived from one general form under different sets of assumptions.

An important technique for the validation of one's measures has been the multitrait-multimethod matrix. *Althausen* and *Heberlein* use a causal model to show several problems which need to be overcome if the matrix is to be used for assessing validity. *Summers, Seiler, and Wiley* provide an example showing the use of the multitrait-multimethod matrix in validating the reputational method of assessing leadership.

5. *Statistical Estimation with Random Measurement Error* H.M. Blalock, Caryll S. Wells, Lewis F. Carter
6. *Validity, Invalidity, and Reliability* David R. Heise, George W. Bohrnstedt
7. *Effect of Reliability and Validity on Power of Statistical Tests* T. Anne Cleary, Robert L. Linn, G. William Walster
8. *Bivariate Agreement Coefficients for Reliability of Data* Klaus Krippendorff
9. *Validity and the Multitrait-Multimethod Matrix* Robert P. Althauser, Thomas A. Heberlein
10. *Validation of Reputational Leadership by the Multitrait-Multimethod Matrix* Gene F. Summers, Lauren H. Seiler, Glenn Wiley

PART THREE: STATISTICAL TECHNIQUES

Iversen provides a readable introduction to an important branch of statistics which sociologists have largely ignored—Bayesian statistics. *Entwisle* and *Knepp* provide an introduction to what may prove to be another valuable technique for sociol-

ologists—uncertainty and a class of measures designed to measure the association of one attribute on another (e.g., correlation coefficient, association) comparable to the results of a regression analysis.

Walster and Cleary
to use statistical significance
making a decision, a difference
exist between the degrees of
false and the probability of
The authors show significance
established for hypothesis
11. *Statistics According to*
Iversen
12. *Uncertainty Analysis of*
Data Doris R. Entorf
13. *Multivariate Analysis of*
James S. Coleman

November 1970 LC

The 1969 yearbook methodological importance of this area perhaps most crucially in the attention it received accordingly. The reader will find many important methodological issues that some may regard as "old hat" through" they have been

Prologue Edgar F. Borg

PART ONE: PATI

INFERENCES, MEA

Land provides a re-examination of the principles that underlie the assumptions in causal analysis and the methods used to test them. *Duncan* presents a new method of analysis that shows that ground variables such as education, work experience, and family background are important in the choice of occupation. This chapter discusses the importance of determining the presence of unmeasured variables in the analysis of some problems. It addresses some problems in the analysis of change, exploring the relationships between variables.

1. *Principles of Path*
2. *Problems in Path*
ence Data David I
3. *Contingencies in*
Otis Dudley Dunc
4. *Observations on*
George W. Bohrn

PART TWO:
Doby examines
scientific examination
methodology of the

1969 LC: 68-54

nd Paths Otis Dudley

Theories Kenneth D.

MEASUREMENT, AND VALIDITY

Carter show that infer-
s are biased in the pres-
indicate how, using a
develop several differing
ise and Bohrnstedt ad-
ly to the problem of
assume one has multiple
ed variable. Then, using
ey show how the validi-
bility of a composite
rious indicators can be

ror can affect estimates
, and Walster show very
er of statistical tests also
ty and validity of one's
showing about reliability
s to be concerned about
r rates in social science
mingly dissimilar coeffi-
over the years for asses-
Krippendorff demon-
derived from one general
f assumptions.

ue for the validation of
n the multitrait-multi-
r and Heberlein use a
ral problems which need
atrix is to be used for
s, Seiler, and Wiley pro-
he use of the multitrait-
idating the reputational
ship.

with Random Measure-
lock, Caryll S. Wells,

nd Reliability David R.
nstedt

nd Validity on Power of
Anne Cleary, Robert L.
er
coefficients for Reliabili-
endorff

Multitrait-Multimethod
Althauser, Thomas A.

onal Leadership by the
hod Matrix Gene F.
eiler, Glenn Wiley

STATISTICAL TECHNIQUES

able introduction to an
stics which sociologists
sian statistics. Entwisle
roduction to what may
le technique for sociol-

ogists—uncertainty analysis. Coleman develops a class of measures designed to show the effect of one attribute on another (as opposed to mere association) comparable to regression coefficients in regression analysis.

Walster and Cleary argue that, for a researcher to use statistical significance as a mechanism for making a decision, a meaningful relationship must exist between the degree to which a hypothesis is false and the probability of observing significance. The authors show such a relationship can be established for hypotheses about means.

11. *Statistics According to Bayes* Gudmund R. Iversen
12. *Uncertainty Analysis Applied to Sociological Data* Doris R. Entwisle, Dennis Knepp
13. *Multivariate Analysis for Attribute Data* James S. Coleman

November 1970 LC: 74-110635 ISBN 0-87589-070-9 \$10.50 (to 11/30/70) \$12.50 (after 12/1/70)

SOCIOLOGICAL METHODOLOGY 1969

The 1969 yearbook spans many areas of methodological importance. Causal inference is the area perhaps most crucial now to sociologists and the attention it receives in this book is weighted accordingly. The reader will find the most current important methodological developments, and some may regard each of them as the "break-through" they have been waiting for.

COVERAGE

Prologue Edgar F. Borgatta

PART ONE: PATH ANALYSIS, CAUSAL INFERENCES, MEASUREMENT OF CHANGE

Land provides a readable "how-to-do-it" treatment of the principles of path analysis. Heise details the assumptions underlying the models used in causal analysis and offers several warnings about them. Duncan presents an application of path analysis that shows the relationships among background variables such as father's occupation and education, work orientation, and occupational choice. This chapter is important for its explanation of determining causal relationships in the presence of unmeasured variables. Bohrnstedt addresses some problems in the measurement of change, exploring the handling of dynamic relationships.

1. *Principles of Path Analysis* Kenneth C. Land
2. *Problems in Path Analysis and Causal Inference Data* David R. Heise
3. *Contingencies in Constructing Causal Models* Otis Dudley Duncan
4. *Observations on the Measurement of Change* George W. Bohrnstedt

PART TWO: GENERAL PAPERS

Doby examines the logic and levels of scientific examination: are the differences in the methodology of the natural and social sciences

14. *Statistical Significance as a Decision Rule* G. William Walster, T. Anne Cleary

PART FOUR: MATHEMATICAL SOCIOLOGY

Land provides a mathematical formulation of Durkheim's theory of the division of labor, illustrating the interplay of the dual processes of theoretical specification and parameter estimation. Fararo places the setting for and the analysis of problems of equilibrium of statuses within a unified mathematical framework. Anderson offers a nonmetric multidimensional scaling analysis of assumptions in the semantic differential.

15. *Mathematical Formalization of Durkheim's Theory of Division of Labor* Kenneth C. Land
16. *Status Dynamics* Thomas J. Fararo
17. *Structure of Semantic Space* Andy B. Anderson

inherent in the sciences themselves? Cartwright explores, compares, contrasts, and places in the context of related concepts the various meanings of "ecological variables." His chapter deals with the scope of human ecology, the methodological issues surrounding ecological variables, and the logical problems of inferences from group correlations to the individual. Schuessler contends that a statistical tool that has potentially great utility for sociologists has been largely ignored: the analysis of covariance. He begins with a general exposition of covariance analysis and then demonstrates how a number of the workaday methodologies that sociologists employ can be recast in a framework of covariance analysis. Fararo offers a useful introduction to mathematical model building.

5. *Logic and Levels of Scientific Explanation* John T. Doby
6. *Ecological Variables* Desmond S. Cartwright
7. *Covariance Analysis in Sociological Research* Karl Schuessler
8. *Stochastic Processes* Thomas J. Fararo

PART THREE: SHORTER PAPERS AND NOTES

Ofshe and Anderson investigate the method of paired comparisons and Hadden illustrates the problems of using ad hoc definitions. Finally, Morrison discusses the derivation of age- and duration-specific probabilities from a longitudinal record.

9. *Testing a Measurement Model* Richard Ofshe, Ronald E. Anderson
10. *Use of Ad Hoc Definitions* Jefferey K. Hadden
11. *Probabilities from Longitudinal Records* Peter A. Morrison

1969 LC: 68-54940 ISBN 0-87589-030-X \$10.50 (to 11/30/70) \$12.50 (after 12/1/70)

Official Publications
of the
AMERICAN
SOCIOLOGICAL
ASSOCIATION

Editors

EDGAR F. BORGATTA
GEORGE W. BOHRNSTEDT

Advisory Editors

HOWARD S. BECKER
HUBERT H. BLALOCK, JR.
OTIS DUDLEY DUNCAN
RICHARD J. HILL
ROBERT MCGINNIS
PETER ROSSI

Special Prepublication Offer
to ASA Members

Sociological Methodology 1969 and the new *Sociological Methodology* 1970 are being offered for a limited time to ASA members and their students at the special prepaid price of \$10.50 each for a single volume or \$20.00 for both volumes. Your check must accompany your order to qualify for the special offer, orders must be placed on the order form below, and must be postmarked no later than November 30, 1970. Orders from outside the U.S. must be accompanied by payment in U.S. dollars. An international money order is suggested. Free copies are not available. Books will be shipped in early November, as soon as available from our bindery.

- Send _____ copies of
____ *Sociological Methodology* 1969 at \$10.50 prepaid only, payment enclosed
____ *Sociological Methodology* 1970 at \$10.50 prepaid only, payment enclosed
____ Both volumes at \$20.00 prepaid only, payment enclosed

(California residents add appropriate sales tax.)

NAME _____
(Print Clearly)

ADDRESS _____

CITY _____

STATE _____ ZIP _____

0 1 2 3 4 5 6 7 8 0

litho USA 9/70

New and Forthcoming Books
in the
JOSSEY-BASS
BEHAVIORAL
SCIENCE SERIES

Winton M. Ahlstrom, Robert J. Havighurst
FOUR HUNDRED LOSERS

Philip G. Altbach, Robert S. Laufer
Sheila McVey
THE MULTIVERSITY: WISCONSIN

Richard P. Coleman
Bernice L. Neugarten
SOCIAL STATUS IN THE CITY

Arlene Kaplan Daniels
Rachel Kahn-Hut, and Associates
ACADEMICS ON THE LINE

N.J. Demerath, III
Gerald Marwell, Michael Aiken
DYNAMICS OF IDEALISM

Robert A. Ellis
GAINING SOCIAL MOBILITY

James O. Haehn
UNIONISM ON CAMPUS

Samuel Z. Klausner
GEOSOCIOLOGY

Reece McGee
THE PRIVATE COLLEGE
AND ITS MEN

Milton Mankoff
FROM REFORM TO REVOLUTION

Elizabeth L. Simpson
ANTECEDENTS OF
DEMOCRATIC VALUES

Information on these books is forthcoming. Please do not order at this time. Correspondence about other books published or new books you would like to see published is cordially invited. We also invite graduate students to inquire about our special twenty-five per cent discount available to them.



Jossey-Bass Inc., Publishers

615 Montgomery Street
San Francisco, California 94111

BULK RATE
U.S. POSTAGE
PAID

San Francisco, Calif.
PERMIT NO. 8906



004894
THEODOR H NELSON
458 W 20TH ST
NEW YORK NY 10011

Official Publications
of the AMERICAN
SOCIOLOGICAL ASSOCIATION